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(12) **UK Patent Application** (19) **GB** (11) **2 308 267** (13) **A**

(43) Date of Printing by UK Office 18.06.1997

(21) Application No 9707140.1
 (22) Date of Filing 23.08.1996
 (30) Priority Data
 (31) 325695 (32) 25.08.1995 (33) US
 (86) International Application Data
 PCT/US96/13659 En 23.08.1996
 (87) International Publication Data
 WO97/08647 En 06.03.1997

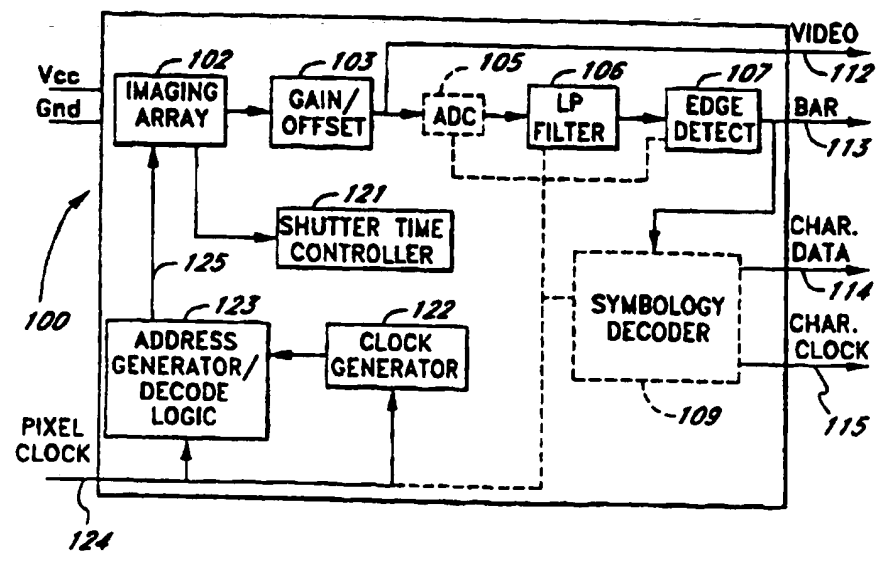
(51) INT CL⁶
 G06K 7/10
 (52) UK CL (Edition O)
 H4F FCCY FD30K FD30P FD83B
 (56) Documents Cited by ISA
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 (58) Field of Search by ISA
 US : 235/436,454,455,462,472; 250/208.1;
 348/221,231,294,296,297,362.
 Online: APS

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(54) **Optical reader with condensed CMOS circuitry**

(57) A CMOS optical or symbol reader chip (100) comprises a CMOS imaging array (102) having a plurality of pixels each with a dedicated pixel-site circuit. Charge is accumulated at each pixel location transferred upon demand to a common bus. The exposure time of the imaging array is controlled using a feedback loop. One or more exposure control pixels are positioned adjacent to or within the imaging array and receive light along with the imaging array. CMOS signal processing circuitry is employed which, in combination with the exposure control circuitry (450), minimizes time-to-read over a large range of light levels, while performing spatially optimal filtering. Clocking cycles (122) and control signals are time-adjusted in accordance with the varying output frequency of the imaging array so as to provide invariant frequency response by the signal processing circuitry (109).



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